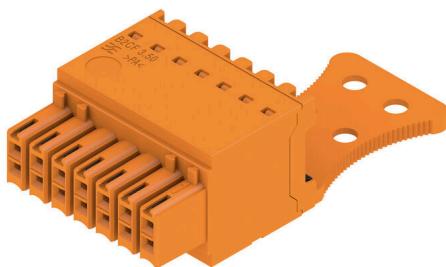


B2CF 3.50/14/180ZE SN OR BX

Weidmüller Interface GmbH & Co. KG
 Klingenbergsstraße 26
 D-32758 Detmold
 Germany

www.weidmueller.com

Product image

The new generation of compact installations:
 The established standard for connecting signals is leading the pack. Maximum connection density in the smallest of spaces – the 2-row B2CF is the trend setter when connecting typical sensor cables of up to 1.5 mm² in the field. It bridges the gap between insufficient space and increased functionality.
 The result is a connectivity solution for standard industrial cables in 1.75 pitch that is 30% smaller than a similar solution in 2.5 pitch – and which features 100% of the ruggedness found in the 3.5 mm pitch.

Compact and safe:

A reliable wire connection method: No servicing required with PUSH IN

Safe male header: Finger-touch safe

A reliable connection for use under extreme conditions: Release latch

Future-proof: Halogen-free insulation materials

Reliable labelling: Large pin marker

Safe installation: Convenient coding

The main advantages for your application:

Efficiency – the highest density of components on the circuit board.

Suitable for industrial use – minimum size with maximum strength.

Process-optimised – automatic assembly and reflow soldering; rapid connections.

Easy to use – secure attachment and wire connect with no tools required.

Application-oriented: easy labelling and reliable coding despite compact dimensions.

Miniaturisation is more than just greater functional density in a smaller space:

every millimetre of reduced size means less space requirements and also less installation costs for the customer.

General ordering data

Version	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 14, 180°, PUSH IN with push button, Clamping range, max.: 1.5 mm ² , Box
Order No.	2730900000
Type	B2CF 3.50/14/180ZE SN OR BX
GTIN (EAN)	4050118807752
Qty.	72 items
Product data	IEC: 320 V / 13.4 A / 0.14 - 1.5 mm ² UL: 300 V / 9.5 A / AWG 30 - AWG 16
Packaging	Box

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Technical data**Approvals**

RoHS	Conform
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Dimensions and weights

Depth	49.04 mm	Depth (inches)	1.9307 inch
Height	15.2 mm	Height (inches)	0.5984 inch
Width	24.5 mm	Width (inches)	0.9646 inch
Net weight	9.22 g		

Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption
REACH SVHC	No SVHC above 0.1 wt%
Product Carbon Footprint	Cradle to gate 0.292 kg CO ₂ eq.

System Parameters

Product family	OMNIMATE Signal - series B2C/S2C 3.50 - 2-row	Type of connection	Field connection
Wire connection method	PUSH IN with push button	Pitch in mm (P)	3.50 mm
Pitch in inches (P)	0.138 "	Conductor outlet direction	180°
Number of poles	14	L1 in mm	21.00 mm
L1 in inches	0.827 "	Number of rows	1
Pin series quantity	2	Rated cross-section	15 mm ²
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch	Touch-safe protection acc. to DIN VDE 0470	IP20 plugged
Protection degree	IP20, when fully mounted	Can be coded	Yes
Stripping length	10 mm	Screwdriver blade	0.4 x 2.5
Screwdriver blade standard	DIN 5264	Plugging cycles	25
Plugging force/pole, max.	3.5 N	Pulling force/pole, max.	3.5 N

Material data

Insulating material	PA 66 GF 30	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 600	Insulation resistance	≥ 108 Ω
Moisture Level (MSL)		UL 94 flammability rating	V-0
Contact material	Copper alloy	Contact surface	tinned
Layer structure of plug contact	2...5 µm Sn hot-dip tinned	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	Operating temperature, min.	-50 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-40 °C
Temperature range, installation, max.	120 °C		

Conductors suitable for connection

Clamping range, min.	0.14 mm ²
Clamping range, max.	1.5 mm ²
Wire connection cross section AWG, min.	AWG 30
Wire connection cross section AWG, max.	AWG 16
Solid, min. H05(07) V-U	0.14 mm ²
Solid, max. H05(07) V-U	1.5 mm ²
Flexible, min. H05(07) V-K	0.14 mm ²
Flexible, max. H05(07) V-K	1.5 mm ²

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Technical data

w. plastic collar ferrule, DIN 46228 pt 4, 0.14 mm²
min.

w. plastic collar ferrule, DIN 46228 pt 4, 1 mm²
max.

w. wire end ferrule, DIN 46228 pt 1, 0.14 mm²
min.

w. wire end ferrule, DIN 46228 pt 1, 1.5 mm²
max.

Clampable conductor	Cross-section for conductor connection	nominal	0.14 mm ²
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	H0,14/12 GR SV
	Cross-section for conductor connection	nominal	0.25 mm ²
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	H0,25/12 HBL SV
	Cross-section for conductor connection	nominal	0.34 mm ²
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	H0,34/12 TK SV
	Cross-section for conductor connection	nominal	0.5 mm ²
	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H0,5/16 OR SV
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	H0,5/10
	Cross-section for conductor connection	nominal	0.75 mm ²
	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H0,75/16 W SV
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	H0,75/10
	Cross-section for conductor connection	nominal	1
	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H1,0/16 GE SV
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	H1,0/10
	Cross-section for conductor connection	nominal	1.5 mm ²
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	H1,5/10

Reference text The outside diameter of the plastic collar should not be larger than the pitch (P), Length of ferrules is to be chosen depending on the product and the rated voltage.

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	13.4 A
Rated current, max. number of poles (Tu=20°C)	10 A	Rated current, min. number of poles (Tu=40°C)	12 A
Rated current, max. number of poles (Tu=40°C)	9 A	Rated voltage for surge voltage class / pollution degree II/2	320 V
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated voltage for surge voltage class / pollution degree III/3	160 V

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Technical data

Rated impulse voltage for surge voltage 2.5 kV
 class/ pollution degree II/2

Rated impulse voltage for surge voltage 2.5 kV
 class/ contamination degree III/3

Rated impulse voltage for surge voltage 2.5 kV
 class/ pollution degree III/2

Short-time withstand current resistance 3 x 1s with 80 A

Rated data acc. to CSA

Rated voltage (Use group B / CSA) 300 V
 Rated voltage (Use group D / CSA) 300 V
 Rated current (Use group C / CSA) 9.5 A
 Wire cross-section, AWG, min. AWG 30

Rated voltage (Use group C / CSA) 50 V
 Rated current (Use group B / CSA) 9.5 A
 Rated current (Use group D / CSA) 9.5 A
 Wire cross-section, AWG, max. AWG 16

Rated data acc. to UL 1059

Rated voltage (Use group B / UL 1059) 300 V
 Rated voltage (Use group D / UL 1059) 300 V
 Rated current (Use group C / UL 1059) 9.5 A
 Wire cross-section, AWG, min. AWG 30

Rated voltage (Use group C / UL 1059) 50 V
 Rated current (Use group B / UL 1059) 9.5 A
 Rated current (Use group D / UL 1059) 9.5 A
 Wire cross-section, AWG, max. AWG 16

Packing

Packaging Box
 VPE width 130.00 mm

VPE length 338.00 mm
 VPE height 54.00 mm

Type tests

Test: Durability of markings	Standard	IEC 61984 section 6.2 and 7.3.2 / 10.11 taking pattern from IEC 60068-2-70 / 12.95
	Test	mark of origin, type identification, pitch, type of material, date clock, approval marking UL, approval marking cULus
	Evaluation	available
	Test	durability
	Evaluation	passed
	Standard	IEC 61984 section 6.3 and 6.9.1 / 10.11, IEC 60512-13-5 / 02.06
Test: Misengagement (Non-interchangeability)	Test	180° turned without coding elements
	Evaluation	passed
	Test	180° turned with coding elements
	Evaluation	passed
	Test	visual examination
	Evaluation	passed
Test: Clampable cross section	Standard	IEC 60999-1 section 7 and 9.1 / 11.99, IEC 60947-1 section 8.2.4.5.1 / 03.11
	Conductor type	Type of conductor solid 0.14 mm ² and conductor cross-section
		Type of conductor stranded 0.14 mm ² and conductor cross-section
		Type of conductor solid 1.5 mm ² and conductor cross-section
		Type of conductor stranded 1.5 mm ² and conductor cross-section
		Type of conductor AWG 26/1 and conductor cross-section

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Technical data

Test for damage to and accidental loosening of conductors		Type of conductor and conductor cross-section	AWG 26/19
		Type of conductor and conductor cross-section	AWG 16/1
		Type of conductor and conductor cross-section	AWG 16/19
		Evaluation	passed
		Standard	IEC 60999-1 section 9.4 / 11.99
		Requirement	0.2 kg
		Conductor type	Type of conductor and conductor cross-section
			AWG 26/1
		Type of conductor and conductor cross-section	AWG 26/19
		Evaluation	passed
Pull-out test		Requirement	0.3 kg
		Conductor type	Type of conductor and conductor cross-section
			H05V-U0.75
		Type of conductor and conductor cross-section	H05V-K0.75
		Evaluation	passed
		Requirement	0.4 kg
		Conductor type	Type of conductor and conductor cross-section
			H07V-U1.5
		Type of conductor and conductor cross-section	H07V-K1.5
		Type of conductor and conductor cross-section	AWG 16/1
		Type of conductor and conductor cross-section	AWG 16/19
		Evaluation	passed
		Standard	IEC 60999-1 section 9.5 / 11.99
		Requirement	≥10 N
		Conductor type	Type of conductor and conductor cross-section
			AWG 26/1
		Type of conductor and conductor cross-section	AWG 26/19
		Evaluation	passed
		Requirement	≥20 N
		Conductor type	Type of conductor and conductor cross-section
			H05V-U0.75
		Type of conductor and conductor cross-section	H05V-K0.75
		Evaluation	passed
		Requirement	≥40 N
		Conductor type	Type of conductor and conductor cross-section
			H07V-U1.5
		Type of conductor and conductor cross-section	
		Evaluation	
		Requirement	
		Conductor type	

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Technical data

	Type of conductor and conductor cross-section	H07V-K1.5
	Type of conductor and conductor cross-section	AWG 16/1
	Type of conductor and conductor cross-section	AWG 16/19
Evaluation	passed	

Important note

IPC conformity Conformity: The products are developed, manufactured and delivered according international recognized standards and norms and comply with the assured properties in the data sheet resp. fulfill decorative properties in accordance with IPC-A-610 "Class 2". Further claims on the products can be evaluated on request.

Notes

- Additional variants on request
- Gold-plated contact surfaces on request
- Rated current related to rated cross-section & min. No. of poles.
- Crimp shape A for wire-end ferrules with crimping tools PZ 1.5 (order no. 9005990000) or PZ 6/5 (order no. 9011460000) for larger wire cross-sections recommended.
- P on drawing = pitch
- Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards.
- Max. outer diameter of the conductor 2.6 mm
- In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load
- Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

Classifications

ETIM 8.0	EC002638	ETIM 9.0	EC002638
ETIM 10.0	EC002638	ECLASS 14.0	27-46-02-02
ECLASS 15.0	27-46-02-02		

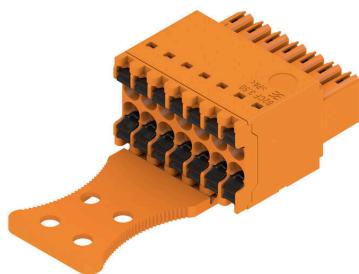
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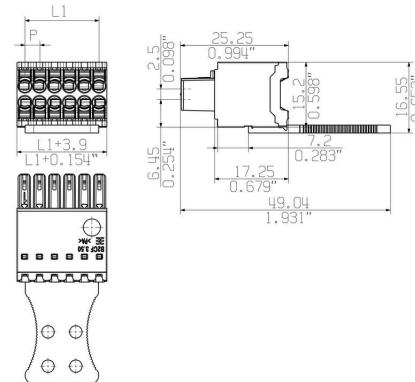
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Drawings

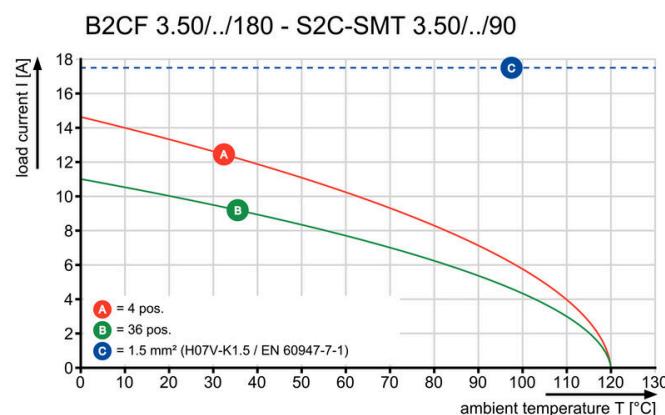
Product image



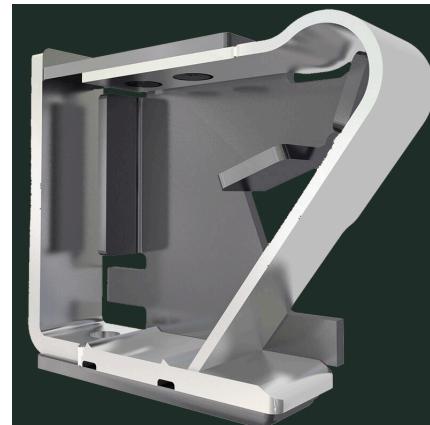
Dimensional drawing



Graph



Product benefits



Solid PUSH IN contactSafe and durable

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Drawings

Product benefits



Large connection cross-section
Up to 1.5 mm² possible with ease

Product benefits



Fast PUSH IN connection
Tool-free and touch-safe

Example of use

